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BIRD-LIFE AT WOOROLOO: Part I

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The Wooroloo district, situated in the Darling Range, 28 miles E.N.E. of Perth, is in the heart of the jarrah forest belt.

In its primeval state it was entirely forested, mainly with jarrah (*Eucalyptus marginata*) and marri (*E. calophylla*) on the laterite soils and with marri and wandoo (*E. redunca*) in other areas. A number of watercourses drain the district and these support flooded gum (*E. rudis*) and blackbutt (*E. patens*). *Xanthorrhoea* spp. are abundant and *Macrozamia* occurs.

A good deal of timber-getting has taken place, but comparatively little of the country has been entirely cleared. The cleared areas are mainly in valleys, though, generally speaking, a narrow belt of natural vegetation has been preserved along the watercourses. The cleared areas have been developed either as pear, peach, and plum orchards, or as pasture.

It is no easy matter to divide this district into habitat areas, but the following division has been adopted:

Jarrah Forest.
Wandoo Forest.
Watercourses.
Orchards.
Pasture land.

However, the wandoo forest is often ill-defined, other trees, including jarrah, frequently occurring in it. The orchards and pasture areas are usually so small that "edge effects" are very noticeable.

JARRAH FOREST

A little to the south-west of Wooroloo townsite and adjacent to the Goldfields Water Supply pipeline there was a patch of almost pure jarrah forest which had escaped serious fire damage for some time. I made a traverse of about 800 yards of this forest on 36 occasions between March 9, 1952, and November 22, 1953. The percentage of times that a species of bird was encountered is shown hereunder:

TABLE I

	Species	Frequency Percentage
1	Spinebill	94
2	Weebill	83
3	Western Shrike-thrush	75
4	Brown Honeyeater	69
5	Western Warbler	67
6	Western Yellow Robin	62
7	Raven	56
8	Red-tipped Pardalote	56
9	Golden Whistler	53
10	Brown Thornbill	47
11	Scarlet Robin	44
12	White-naped Honeyeater	44
13	Golden Bronze Cuckoo	38 (13)
14	Rainbow-bird	38 (8)
15	Kookaburra	31
16	Magpie	28
17	Sacred Kingfisher	25 (12)
18	Red-capped Parrot	19
19	Spotted Pardalote	19
20	Common Bronzewing	17
21	Western Silveryeye	17
22	Grey Fantail	11
23	Rufous Whistler	11
24	Yellow-tailed Thornbill	11
25	Black-capped Sittella	11
26	Red Wattle-bird	11
27	Pallid Cuckoo	9 (23)
28	Western Thornbill	8
29	Port Lincoln Parrot	8
30	Little Wattle-bird	8
31	Tree Martin	6
32	Fantailed Cuckoo	6
33	Black-faced Cuckoo-shrike	3
34	Singing Honeyeater	3
35	Little Eagle	0

The frequency percentage for certain migrants was calculated on the number of traverses made during the periods that the species was in the district, and this number of traverses is shown in brackets after the percentage figure.

The average number of species recorded was 10.4; the highest number on any one day, 16; and the lowest, 6.

The total number of species seen, 35, falls far short of the total for the White Gum Gully traverse (Table II), 56 species, of which 54 were recorded in the first 36 traverses, and 45 species by the end of the twenty-second traverse when a comparable distance had been covered. It should be noted, however, that the Gully count was limited to species encountered within 50 yards of the creek.

It soon became apparent that this jarrah forest was, in effect, two habitats. An open portion with little undergrowth supported a sparse bird population, mainly tree-top frequenting species. Another section had a second storey of *Dryandra floribunda*, *Banksia grandis*, *Persoonia elliptica*, and *Casuarina fraseriana*; this was much more heavily populated, especially when the *Dryandra* was in blossom. Most of the honeyeaters and thornbills recorded were noted in this area.

Red-tipped Pardalotes were recorded erratically in March and April and were apparently absent in May, June, July, and early August. The birds may have been over-looked because they are, perhaps, silent in the non-breeding period; but a movement is possible.

Western Warblers were not recorded in May, June, or July.

All records of Grey Fantails in jarrah forest were in March or April.

Records of the Magpie tended to be marginal, i.e. were heard at a distance, possibly from the forest edge.

Most of the Spotted Pardalote records were made in May, June, and July, 1953.

WANDOO FOREST

No suitable area of wandoo forest was accessible for systematic examination, so no satisfactory comparisons can be made.

Twenty traverses were made of 500 yards of mixed wandoo, jarrah, and blackbutt, with much blackboy. Thirty species were recorded, almost all of which also occurred in the jarrah forest. A notable exception was the Splendid Wren, which inhabited the numerous blackboys, but was entirely absent from the jarrah, which rather lacked ground cover. On the other hand the Spinebill, the most frequently recorded jarrah species was only once recorded in the wandoo, which lacked second-storey.

WATERCOURSES

Between June, 1951, and December, 1953, fifty-five traverses were made along 1,300 yards of White Gum Gully, a typical watercourse which flows parallel with the railway line and finally joins Wooroloo Brook. Much natural vegetation remains along this watercourse, and this adjoins pasture and partly cleared forest not at present utilised. Only birds within fifty yards of the watercourse were counted.

The following table shows the percentage of traverses on which the species was encountered, and the average number of individuals seen, i.e. the total of individuals divided by the number of traverses.

TABLE II

Species	Frequency percentage	Average No. of Individuals
1 Western Magpie	95	3.8
2 Splendid Wren	93	9.0
3 Rainbow-bird	92 (13)	8.3
4 Weebill	91	7.2
5 Singing Honeyeater	89	3.1
6 Grey Fantail	82	2.4
7 Scarlet Robin	73	1.4
8 Golden Bronze Cuckoo	63 (19)	.7
9 Brown Thornbill	62	3.9
10 Red-tipped Pardalote	58	2.8
11 Western Silvereye	58	11.6
12 Yellow-tailed Thornbill	58	3.3
13 Rufous Whistler	56	.6
14 Western Warbler	55	2.0
15 Western Shrike-thrush	55	.9
16 Kookaburra	53	.8
17 Magpie-lark	51	.7
18 Tree Martin	49	3.4
19 Willie Wagtail	49	.7
20 Little Eagle	44	.6
21 Common Bronzewing	40	1.3
22 Pallid Cuckoo	39 (23)	.4
23 Brown Honeyeater	35	3.3
24 Raven	33	.8
25 Golden Whistler	31	.6
26 White-naped Honeyeater	29	1.0
27 Horsfield Bronze Cuckoo	29 (17)	.3
28 Sacred Kingfisher	23 (12)	.4
29 Black-faced Cuckoo-shrike	20	.3
30 Little Wattle-bird	13	1.1
31 White-faced Heron	13	.3
32 Western Thornbill	13	.9
33 Fantailed Cuckoo	11	.1
34 Black-capped Sittella	11	.76
35 Indian Turtle-dove	11	.16
36 Red-capped Parrot	11	.15
37 Red Wattle-bird	11	.13
38 Spotted Pardalote	9	.16
39 White-tailed Black Cockatoo	9	1.31
40 Brown Hawk	7	.09
41 Brown-headed Honeyeater	7	.53
42 Yellow-winged Honeyeater	7	.20
43 Port Lincoln Parrot	7	.18
44 Dusky Wood-swallow	7	.15
45 Western Spinebill	6	.05
46 Collared Sparrow-hawk	6	.05
47 Black Duck	6	.09
48 Grey Butcher-bird	4	.04
49 Australian Goshawk	4	.05
50 Wedge-tailed Eagle	2	.02
51 Black Honeyeater	2	.07
52 White-fronted Chat	2	.04
53 Senegal Turtle-dove	2	.04
54 Hooded Robin	2	.02
55 Little Falcon	2	.02
56 White-necked Heron	0	0

Migrants were treated as in the jarrah forest list (Table I).

The average number of species seen on a traverse was 16.1, the number of species ranging from 7 to 28, though it was usually

fairly consistent and reveals no definite trend. June and July figures averaged only 13.1.

Silvereyes were most frequent and were most often recorded in the summer months.

Black Duck were recorded only during 1951 (three times), though the creek runs for most of the year and usually contains some water.

Red-tipped Pardalote were recorded only in the August-May period, whereas the only records of the Spotted Pardalote (5) fell outside that period.

Honeyeaters, with the exception of the Singing Honeyeater, tended to irrupt, often following the blossoming of eucalypts or other nectariferous plants. The Black Honeyeaters recorded were evidently rare stragglers to this area.

All records of the Indian Turtledove were made between February and August, 1953, four birds being seen on one occasion.

ORCHARDS

Fifteen traverses were made of about 600 yards of peach and pear orchard, between July and December, 1951. As this, like most of the orchards, was of no great extent, allowance must be made for edge-effects. The orchard was bounded on three sides by modified forest.

TABLE III

Species	Frequency percentage	Average No. of Individuals
1 Western Magpie	40	.47
2 Splendid Wren	40	1.93
3 Yellow-tailed Thornbill	40	1.23
4 Scarlet Robin	27	.47
5 Grey Fantail	20	.20
6 Western Silvereye	13	1.73
7 Willy Wagtail	13	.13
8 Budgerygah	13	4.46
9 Singing Honeyeater	7	.13
10 Australian Pipit	7	.06
11 Kookaburra	7	.06
12 Rufous Whistler	7	.06
13 Magpie-lark	7	.20
14 Brown Thornbill	7	.06

The largest number of species seen on any one day was 6; the smallest, nil; and the average, 2.4.

The Budgerygahs, recorded twice, were stragglers, part of an irruption recorded in the *W.A. Nat.*, vol 3, p. 38.

Other birds recorded in other orchards, or in this same orchard at other times were: Dusky Wood-swallow, Elegant Parrot (once), and Red-capped Robin.

PASTURES

Cleared and developed pastures were usually quite small, from about three to ten acres. Magpies and Pipits feed in them, Tree Martins and Dusky Wood-swallows forage over them, and Willy Wagtails appear along the margins. Other species, of course, occur in transit.